What is claimed is:

1. A method of transforming a plant cell with a gene of interest, comprising exposing said plant cell to *Agrobacterium* under conditions which inhibit *Agrobacterium* induced necrosis (AIN), wherein said *Agrobacterium* comprises a vector comprising said gene of interest.

2. The method of claim 1 comprising exposing said plant cell to *Agrobacterium* after heat-shock treatment.

3. The method of claim 1 comprising exposing said plant cell to *Agrobacterium* in the presence of an agent inhibiting *Agrobacterium* induced necrosis (AIN) .

4. The method of claim 3 wherein the agent inhibiting AIN is a chemical inhibitor.

5. The method of claim 4 wherein the chemical inhibitor is a compound selected from the group consisting of ethylene inhibitors, ethylene synthesis inhibitors, gibberelin antagonists, and phophatase inhibitors.

6. The method of claim 3 wherein the agent inhibiting AIN is a nucleotide sequence.

7. The method of claim 6 wherein the nucleotide sequence encodes mRNA or protein inhibiting AIN.

8. A method of making a fertile, transgenic plant comprising transforming plant tissue by exposing the tissue to *Agrobacterium* under conditions which inhibit *Agrobacterium* induced necrosis (AIN) and regenerating tissue thus transformed, wherein said *Agrobacterium* comprises a vector comprising a gene of interest.

9. A plant, plant tissue or plant cell comprising a nucleotide sequence of heterologous origin which inhibits AIN.

10. A plant cell or tissue culture medium, comprising
    a) a chemical inhibitor of AIN,
    b) an *Agrobacterium* comprising a plasmid comprising a gene of interest, and
    c) water and essential salts.

11. A method of transforming a totipotent cell of a plant of the family Gramineae, comprising exposing a population of said totipotent cells to *Agrobacterium* comprising a plasmid comprising a gene of interest, wherein the *Agrobacterium* is of a strain which does not induce significant levels of necrosis in said population at an exposure duration and concentration sufficient to achieve transformation of said cell.

12. A method for determining the suitability of an *Agrobacterium* strain for use in the transformation of a regenerable cell of a plant of the family Gramineae comprising exposing a population of said regenerable cells of the plant to the *Agrobacterium* strain and observing the necrosis in said cell population.

13. An *Agrobacterium* strain which has been genetically modified to reduce or eliminate expression of the *Agrobacterium* necrosis factor or a derivative of such a modified strain.